

How Much Can a Motor Lift? Quiz

1. The _____ of a motor is the rotary force produced on its output shaft.
A. power
B. gear
C. torque
D. clutch
2. The _____ of a motor is the product of its speed and torque.
A. power
B. gear
C. stall
D. clutch
3. A condition where a motor encounters so much resistance that it cannot turn.
A. power stop
B. torque stop
C. stall power
D. stall torque
4. As a motor's resistance is increased the required current must _____.
A. increase
B. decrease
C. stay the same
D. can not be measured
5. As a motor's resistance is increased the torque must _____.
A. increase
B. decrease
C. stay the same
D. can not be measured
6. As a motor's resistance is increased the RPM (revolution per minute) must _____.
A. increase
B. decrease
C. stay the same
D. can not be measured
7. If your test shows that you can lift 14 ounces with a 6 inch lever arm, how many inch/ounces of torque do you have?
A. 20 inch/ounces
B. 8 inch/ounces
C. 2.33 inch/ounces
D. 84 inch/ounces
8. If your test uses a 6.5 inch lever arm, but you need to express your results in centimeters, your lever arm is _____ cm. long.
(Remember that an inch equals 2.54 centimeters)
A. 16.51 centimeters
B. 3.19 centimeters
C. 3.91 centimeters
D. 25.4 centimeters
9. If your test uses requires 12.5 ounces to create stall, but you need to express your results in Newton's, your test required _____ Newton's to stall your motor.
(Remember that 1 ounce equals .284 Newton's)
A. 12.784 Newton's
B. 2.84 Newton's
C. 44.014 Newton's
D. 3.55 Newton's
10. If you find that your motor stalls when you apply 3.4 ounces of resistance with a lever arm that is 7.25 inches long, what is your torque result expressed in centimeters/Newton's? Show your work on the back of this test.
A. 18.415 Newton/centimeters
B. 17.788 Newton/centimeters
C. 24.65 Newton/centimeters
D. .966 Newton/centimeters

VEX ROBOT

Testing stall torque of the Vex motors

Quiz key

1. C.
2. A.
3. D.
4. A.
5. A.
6. B.
7. D.
8. A.
9. D.
10. B.